

# Columbia Steel

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Patrick Garrett, Columbia Steel

## Challenge

Deploy a robust enterprise-class network across a 15-acre steel fabrication plant

Design the network to work reliably despite the tons of signal-reflecting steel throughout the plant

Other solutions could not withstand the metal dust and intense vibration created during the manufacturing process

Multiple integrators told the company that wireless simply could not be done

## Results

Entire facility now covered with resilient enterprise-class wireless LAN

Meraki solution functions reliably despite interference and environmental challenges that blocked other systems

Company now implementing barcode scanners and other logistics solutions that leverage the wireless network



Patrick Garrett had a big problem. He wanted to deploy an enterprise-class network across a 20-acre steel manufacturing facility that was decidedly unfriendly to electronics. Between the massive quantities of signal-reflecting steel, the violent vibrations created by the machinery, and the extremely high EMI signature emitted by the 50 industrial welders on-site, every integrator Garrett turned to took one look and said, “Good luck.”

Left to his own devices, Garrett cobbled together a network using Tranzeo, Ubiquity, and Cisco equipment, cannibalizing access points and even deploying one on a golf cart to propagate his signal around the outdoor steel yard. The result was slow, unreliable, and time-consuming to maintain. “Managing those networks was a logistical nightmare,” he said.

“It worked, but it was neither easy to maintain nor elegant in design,” he said. Seeking a better solution, he approached 4 different integrators with his vision of a network that worked both indoors and out, allowing employees to manage inventory and load lists for the shipments of steel plates and I-beams leaving the facility each day. They all said it was impossible.

“I tended to disagree,” Garrett said. “Where there’s a will, there’s a way. I considered our CEO’s vision that we can get where we want to go using technology, and set out to find the better mousetrap.” He started considering mesh as a strategy for propagating his signal around the interference.

Enter Meraki. Garrett had come across Meraki in a trade magazine, in an article about the company’s award-winning mesh technology. “I was impressed by their willingness to go out there and put their equipment on the line to prove that it works. You know, show me, don’t tell me.”

Persuaded, Garrett ordered seven Meraki access points, but he admits his expectations were low after months of disappointments with other vendors. “I was poking sticks at them as I tried them out, and they kept coming through. I understood that building an outdoor network in a sea of steel was a huge challenge,” he said. What happened with Meraki was a revelation.

“Everyone told me that if you want to push a signal further; put a bigger antenna on it. But Meraki is a complete paradigm shift to traditional wisdom on building a wireless network,” Garrett said. “The Meraki access point actually exploited the reflection of the steel and turned the building itself into a giant antenna!”

Garrett uses Meraki’s Enterprise Cloud Controller and employs two SSIDs at his company, one for guests and partners, the other for employees. He says it is refreshing to have a network that plays well with all of the PCs, Macs, and UNIX machines onsite, and is self-healing when issues arise. “We have radios go down because of the level of EMI in the shop. Before Meraki, I would have to spend a day getting the network back up. With Meraki, I can just go to the Dashboard, and it’s resolved. Meanwhile, the signal is never lost. Management of this is a no-brainer.” That’s good since Garrett and one part-time assistant are the entire IT department.

Better yet, the Meraki equipment has proven tough enough to stand up to the conditions inside and outside the plant. “Most equipment we looked at [from other vendors] that was rugged enough, was exorbitantly expensive.” We create a lot of metal dust and vibration that disturbs the electronics. Only Meraki has proven rugged enough.”

That it simply worked was a selling point, but not the only one. “I have two internal metrics when I consider investing in equipment,” Garrett said. “One, does it work? Two, can we pass the same traffic on it as we would pass through the wired network? The answer with Meraki was yes and yes.”

Now, Garrett is looking to use his Meraki network to implement a wireless inventory barcode scanning system. “We want to be on par with UPS,” he said. Using 802.11 and Bluetooth, he expects to bring the entire operation onto the network soon.

“This has been a very fruitful partnership for us. I know that Meraki is always working on fixing any issue before I even think of it, and constantly improving the product. I can’t say the same about any other company. I would recommend Meraki HIGHLY,” Garrett said. “It just works, it’s an affordable solution, and it’s easy to manage. Simple as that.”